November 2007

Montana Department of Agriculture

Fifteenth Edition

AGRICULTURAL SCIENCES DIVISION NEWSLETTER

EMPLOYEE NEWS

WELCOME TO RON de YONG, DIRECTOR
MONTANA DEPARTMENT OF AGRICULTURE

Ron de Yong was appointed Director of the Montana Department of Agriculture by Governor Brian Schweitzer in August of 2007. A member of the National Association of State Departments of Agriculture, Ron serves as vice chair of the Rural Development and Financial Security Committee, which advises federal officials and Congress on farm program and policy issues. He also serves as secretary/treasurer of the Western Association of State Departments of Agriculture.

Director de Yong owns and operates a 320-acre family farm near Kalispell that produces wheat, barley, peppermint, peas, lentils and alfalfa. For seven years prior to becoming director, he was a lecturer at Cal Poly State University, teaching agricultural policy and economics.

Ron earned a master's degree in economics at the University of Montana and undergraduate degrees from Montana State University in agricultural science and philosophy. He has participated in national and international policy discussions as a Montana state committeeman for the USDA Farm Service Agency; national economist for the National Farmers Union; and a member of Senator Max Baucus' delegation to the 1999 World Trade Organization ministerial meeting in Seattle.

In his capacity as director, de Yong serves on the Rail Service Competition Council, Noxious Weed Summit Advisory Committee, Montana Wheat & Barley Committee, Montana Agriculture Development Council and various other committees.

Director de Yong says he finds fascinating the evolution of agricultural policy and its resulting impact on history. As department director, he intends to have a direct role in implementing policies to support family farms and enhance agricultural business opportunities in Montana.

Ron and his wife Dee have three children.

EMPLOYEE NEWS (CONTINUED)

AGRICULTURAL SCIENCES DIVISION

Nancy Petrie—Helena: Budget Analyst— I joined the Department of Agriculture in July of 2007. Prior to coming to Agriculture, I worked for the Department of Justice and other agencies for 21 years. I am married to my husband Jim, and we have two children, Derek and Katie. We are involved in 4-H and that keeps us very busy! I originally came from a ranching family, and I love working with animals. I enjoy riding horses with my friends and family and the outdoors.

TECHNICIAL SERVICES BUREAU

Ryan Solberg—Bozeman: I began working for the Department as an Agricultural Specialist in January 2007. My office is located in Bozeman and I will be doing commodity inspections in the Gallatin and surrounding counties. After growing up in North Dakota, I moved to Bozeman and obtained a degree in Agriculture business from Montana State University. After graduation, I continued to live and work in the Gallatin Valley, most recently for a seed research facility. I enjoy the outdoors and spending time with friends and family throughout the state.

Rachel Vander Voort—Helena: I recently came to the Department of Agriculture from the Department of Administration. My position is located in the Licensing section as a Licensing and Registration Technician. I have lived in Helena for 20 years, and in Texas for a year. My hobbies are riding horses and rodeo.

COMMODITY SERVICES BUREAU

Duane Bays—Helena: Duane began work as the GIS (Geographic Information Systems) Programmer/Analyst at the Montana Department of Agriculture in August 2007. This is his ninth professional position involving GIS, land records, and natural resource data. With one exception, all of Duane's previous GIS positions have been limited-duration contract positions.

Duane completed his Master of Science thesis and degree in environmental science at Western Washington University in Bellingham, Washington, in June 2003. He had previously completed separate Bachelor of Science degree programs in geology and environmental science at the same institution. In his non-working hours, Duane is a current student in an online Bachelor of Science degree program in Information Technology through the Oregon Institute of Technology ("Oregon Tech").

Duane is a former resident of Montana, both as a child and as an adult, and he is extremely pleased to be again living in this wonderful State. He plans to apply his scientific and technical skills to help 21st-century Montana improve and more effectively utilize its natural resource economy, while remaining a wonderful place to live and work.

EMPLOYEE NEWS (CONTINUED)

In his personal life, Duane enjoys fishing, hunting, motorcycle riding, picking over old rockpiles for mineral specimens at abandoned mines, and just generally being outdoors. He reads extensively and especially enjoys science fiction. He is a current member of the Geological Society of America and is the current volunteer webmaster for the Idaho Museum of Mining and Geology (http://www.idahomuseum.org).

Brent Sarchet— Helena: I started working for the department as a Business Examiner in November. I am originally from western Nebraska where I grew up on a farm/ranch. I attended the University of Wyoming where I obtained my Bachelor of Science in Agriculture Business and my Masters of Science in Agriculture Business. Since college I have worked for a financial company, a farming/ranching operation in western Nebraska, and I have been farming on my own on and off since high school. My wife's name is Andrea. We met while going to graduate school at the University of Wyoming. She is the new extension agent for Madison and Jefferson county. We have a red healer named Whiskey. In our spare time we enjoy doing just about anything involving the outdoors including: hunting, fishing, camping, hiking, skiing, and riding our horses.

Dawn Bales—Conrad: My name is Dawn Bales and I started working for the department as an Agricultural Specialist/BSE Technician in June of 2007. One of my main focuses is monitoring Canadian feed coming to Montana feed dealers, farms and ranches for prohibited materials. This effort is to prevent BSE in ruminants from Montana and the U.S. I have an Associate of Science Degree in Agroecology from Northwest College and a Bachelor of Science Degree in Agroecology from the University of Wyoming. After college, I participated in an international agricultural exchange program where I lived and worked in New Zealand for 6 ½ months. My husband, Chas, and I currently live in Conrad, Montana, where he works as an apprentice motorcycle/ATV mechanic for Pure Bliss. I grew up in Valier only a half hour away. We lived in Billings where we both worked for Westfeeds before moving back to Conrad. Prior to this, Chas was in the Marine Corp where he served two tours in Iraq and I worked for a registered Red Angus and Gelbveigh breeder. We enjoy camping, hiking and hunting in our free time. We haven't started a family yet unless you count our very hyper red heeler Ronan, and three crazy kittens.

ANALYTICAL LABORATORY BUREAU

Robyn Johnson—Bozeman: I lived in Flint, Michigan, for 29 years and relocated to the Bozeman, Montana, area in April of 2007. I previously worked at a Wastewater Plant in Montrose, Michigan, for Genesee County as a Wastewater Laboratory Technician. Also, I worked at a Water Plant in Flint, Michigan as a laboratory technician as well. I am married with two daughters (ages one and three) and one stepdaughter (13 years old). I started at the Department of Agriculture as a Pesticide Laboratory Technician on April 30, 2007 for the Montana Department of Agriculture Analytical Laboratory in Bozeman, Montana.

Sienna Paquin—Bozeman: I grew up in Whitehall, Montana, and graduated from Montana State University in Bozeman in 2005 with a degree in Environmental Studies. Upon graduation I enrolled in the Peace Corps and was sent to a remote village in Cameroon, Africa, to be an extension agent. I previously worked as a student for the Montana Department of Agriculture Analytical Laboratory in Bozeman while attending college. I am now an Administrative Assistant as of September 2007.

MDA LABORATORY METHOD PUBLISHED IN THE AOACI JOURNAL

The lab is proud to announce the recent publication of their method "Determination of Chlorinated Acid Herbicides in Vegetation and Soil by Liquid Chromatography-Electrospray/Mass Spectrometry/Mass Spectrometry" in the Journal of Association of Official Analytical Chemists (AOAC) International. The method was developed and validated in the laboratory over the course of 2005-2006 with Angela Schaner in the lead assisted by Jaclyn Konecny and Laura Luckey.

The method has been well accepted by our colleagues and generated a lot of interest in many laboratories across the country. The compounds determined with this method are some of the most popular herbicides used worldwide for control of annual and perennial broad-leaf weeds in lawns and grain crops. They are the laboratory's most requested analysis in the MDA Pesticide Enforcement program and include compounds such as 2,4-D, dicamba and picloram.

The ability to measure these compounds reliably at trace levels in plant tissue and soil is vital to pesticide regulatory agencies and has been very challenging to analytical chemists. Past analytical methods required extra special handling for these compounds involving hazardous and explosive chemicals. Also, due to instrument limitations, identification and confirmation of positive findings in complex matrices like alfalfa or apple leaves were often questionable at low levels and could result in inconclusive results.

The new method makes substantial improvements. No special handling is required. And the method takes advantage of the LC/MS/MS measurement technique to generate data that is more robust and reliable at low residue levels and more cleanly interpretable. Results are readily defendable in a court of law as the identification of the compound fingerprint by the MS/MS technique is conclusive confirmation.

We are pleased to have our method recognized by our peers in the journal publication but more importantly to provide a better service to the Montana Department of Agriculture. Since the method was implemented, the lab has analyzed over 100 plant tissue and soil samples in support of pesticide misuse investigations. Generating sound defendable results is central to the investigation as each and every analytical result transforms into evidence and becomes a valuable piece of the puzzle used to reach a sensible conclusion. The new method improves defensibility of results and provides better efficiency and safety for lab employees.

Submitted by Heidi Hickes— Bureau Chief

THE LAB SEEKS ACCREDITATION

The lab has begun the process of applying to the A2LA organization for accreditation to the *International Standard ISO/IEC 17025:2005* for two methods used in the USDA Pesticide Data Program. Accreditation is required in order for the PDP results to be accepted and used worldwide. It demonstrates that the laboratory operates in compliance with a rigorous set of requirements.

The lab has been preparing for accreditation for over two years. After a four day formal training session in November of 2005, Cathy, Angie and Heidi met weekly to study and interpret the 36 page ISO 17025 document. They worked diligently to figure out how to apply the standard efficiently and meaningfully in the lab.

The first step was to define and document the quality system policies and procedures. The process included writing a 17-page quality manual to explain quality policies and then to write over 43 new SOP's that explain in careful detail procedures for following the standard. Once in place, staff had to be trained and the system audited routinely to ensure compliance. Several improvement were made along the way and additional requirements incorporated. The lab is now ready for the A2LA assessment and looking forward to celebrating the accreditation sometime next year.

The lab has learned much during the development and implementation of the standard. Several new measures are now incorporated into the USDA PDP program such as control of documents and records, demonstration of staff competency, authorization of technical staff to test samples, traceability of critical measurements and others. The additional chores and requirements may seem onerous at times but accreditation, recognized by the international community as demonstration of our competency and credibility for chemical testing, is worth the efforts.

"A river cuts through rock, not because of its power, but because of its persistence."
- Jim Watkins -

Submitted by Heidi Hickes, Bureau Chief & Sienna Paquin, Administrative Support

NEW NACL METHOD AT THE LABORATORY

The lab has a new method for analyzing NaCl in animal feed. The method is for finished feeds only and not for mineral and pre-mix feeds. The new method measures sodium (Na^+) by Inductively Coupled Plasma (ICP) and the measured value is converted to a NaCl result. The ICP instrument measures elements in feed such as calcium, phosphorus, copper and zinc.

Remember there is no method that can directly measure NaCl as an intact molecule. NaCl is soluble in water and that is how it is extracted from animal feed. But in water the NaCl molecule breaks down to the individual ions of NA^+ and Cl^-. In order to measure and report NaCl you must either measure the NA^+ or Cl^- and then perform a mathematical conversion to report a NaCl result.

The official method, and the method we have used in the past for all feeds, measures the Cl^- ion molecule. This method takes all day for one analyst to test for six samples. The new method will take about 1-2 hours to analyze six samples as we will analyze the Na^+ at the same time we are analyzing other elements.

The new method is not an AOAC validated method but is used by many labs across the country as a viable option to the official method. We have studied and compared the results of 94 samples that were analyzed by both methods and have determined the Na^+ method will work for all feeds with the exception of the minerals and premixes. Those feeds will continue to be analyzed by the official Cl^- method.

The new method will save lab resources as a majority of our samples for NaCl analysis can be analyzed by the ICP in conjunction with the other elements. If a sample is determined to be deficient with the new unofficial method, it will be repeated by the official method and only official method results will be reported.

It is critical for the field staff to fill in the sample type field accurately as this field is used by the laboratory to separate mineral/premixes from other feeds. SooRyong Yoon has designed a report to assist the analyst in determining which method to use for analysis of NaCl. The report uses logic to pull only mineral or premix samples for the Cl^- method and all other feeds for the Na^+ method.

SooRyong's contribution has made this process simple for the lab to implement. This is one of many that Soo has created to make our lives easier!

Submitted by Heidi Hickes—Bureau Chief

2007 APPLE HARVEST IN THE BITTERROOT VALLEY

Most local apple producers have harvested their crop and placed their apples in cold storage. Several growers sell their apples to local grocery stores. The apples are pulled from the cold storage areas and sorted and boxed for delivery to the stores each week.

The main variety is Macintosh; however, Gala, Honeycrisp, Jonamac, Jonathan, Empire and Spartan are some other varieties raised here. MacIntosh is the best apple for our area as it is a cool climate apple and needs cooler temperatures in the fall and evening. It also is popular for making apple cider and for cooking into applesauce.

Production varies from grower to grower. Art Callan, near Corvallis, raises about ten varieties on 2-3 acres. He picks his own apples and bags them to sell at the local Farmer Markets. Mountain View Orchards is a larger orchard with approximately 18 acres near Corvallis. The first trees were planted here in 1909, by Charles J. Swanson. His grandson, Charles Swanson is the 3rd generation in his family to raise apples. He still receives help from his father Carl who is in his 80's. Swanson, now 56, hopes his son will someday take over the business. Swanson's wife, Julie has commented they may plant another 10 acres and consider building a new warehouse and cooler. They are not sure they want to go into debt for this expansion. She said the biggest problem they encounter is finding good seasonal help when they need it.

MacIntosh apples are known for their variation of red and green color. Red color is most desirable and the crop Swanson raised did not get as much red color this year. Swanson said this was from the excessive heat last summer and hot nights. As a result, a large amount of Swanson's apples went into cider. Shipping Point Grade inspection for apples can be requested by the producers if they want to have one. They are not required to have this inspection. Most producers have the same local buyers each year and may only request inspections if they are shipping out of the area to a new buyer. So far in 2007, no requests for inspections have been made to the Montana Department of Agriculture.

Submitted by Dan Poff—Agricultural Specialist

MONTANA BEEKEEPERS ASSOCIATION AND MONTANA INSPECTORS LEARN ABOUT BEE DISEASES IN WYOMING

The Montana Beekeepers Association met in Cody, Wyoming, at the Holiday Inn Convention Center. The featured speaker was Dr. Jeff Pettis, with the USDA Agricultural Research Service in Beltsville, Maryland. Dr. Pettis is one of the lead scientists investigating Colony Collapse Disorder, so Montana's beekeepers got the latest information on that problem during a productive two hour question and answer session.

Although it has been reported in the media that the "cause" of Colony Collapse Disorder (CCD) is a virus, called Israeli Acute Paralysis Virus (IAPV), Dr. Pettis was careful to indicate that, although the research has found a strong association, it is far from conclusive at this time. The main symptoms of CCD are:

1. Rapid loss of adult bees.
2. Excess brood (the amount of brood present cannot be covered by the adult bees present.
3. A live queen present, and apparently laying, in the hive.
4. Plenty of food, both honey and pollen.
5. No build-up of dead bees. This means no excess dead bees on the hive bottom, no excess dead bees at the hive entrance, and no dead bees with their bottoms poking out of the cells (this is usually a sign of starvation instead.)

The main focus of Dr. Pettis' talks, however, was the new *Nosema* disease that is being found in bees throughout the world. The "old" Nosema, caused by *Nosema apis*, is generally characterized as a disease of wet weather, with the primary symptom of the disease being profuse diarrhea, causing defecation inside and close to the hive. The "new" *Nosema* is caused by *Nosema ceranae*, and seems less associated with weather. So far, Dr. Pettis and his lab have found the disease organism in bees from most places they have sampled. While the signs of the disease are less clear cut, the impact of the disease appears, so far, to be much greater, as it appears more likely to kill the bees.

We also heard about the USDA ARS Bee Disease Diagnostic lab in Beltsville, Maryland. This is a facility that can examine bees for certain diseases, such as chalkbrood and the two *Nosema* diseases that are circulating. For *Nosema*, the bees can be collected into alcohol, (ethanol) and sent in. However, examination for virus diseases is more difficult, as the bees have to be collected into special buffers.

While at the meeting, Patricia Denke (Helena, Chief Apiarist), Robert (Bob) Bales (Billings office, Inspector), and Lori Vance (Forsyth office, Inspector) had the opportunity for a breakfast meeting with several of their peers from the Wyoming Department of Agriculture. Kim Decker (Chief Apiarist, Powell), and two of her inspectors were also at the meeting. It was a great opportunity to discover that the problems of inspections are much the same in the two states, as well as the goals of the inspection services.

BEEKEEPERS ASSOCIATION (CONTINUED)

Ms. Decker addressed the meeting, providing a few statistics about Wyoming beekeeping. They have registration requirements similar to Montana, except that their locations for commercial operations have to be only 2 miles apart. There are 149 registered beekeepers in Wyoming, with about 50,000 registered colonies. They try to in-inspect around 25% of their operations each year.

In the meantime, several Montana beekeepers have reported that circumstances that make it clear that CCD is not over. In September, Dan Poff (Missoula Field Office) and Patricia Denke (Helena) inspected two operations near Missoula (and took samples for scientists at Pennsylvania State University and Dr. Pettis' lab) that were in the process of collapsing.

Montana had 208 registered beekeepers during the past year. Of those, a vast majority are holding more than five hives, although we are gaining in number of registered hobby beekeepers, probably due to increased compliance with the law (keep up the good work on the education front, everybody!) We had 42 registered hobbyists last year. This is up from 37 the past year, and 22 in 2003, when I came to the Department. In the past 12 months, inspectors with the Department conducted 43 inspections, opening 2,030 hives in yards containing 6,558 hives. This represented 30,430 hives. Of these, ten were ordered burned. (Six in one yard containing only eight hives. The other two hives were also burned.) There were also 14 investigations; five illegally placed hives, two neighbor complaints, and two abandoned bees. We also had a large number of complaints of swarms from all areas of the state. Since this has been an on-going problem, we had included a form giving us permission to list beekeepers on a "swarm call list" last re-registration period. Response was very positive, and as a result, there is a list of beekeepers who can be called, organized by county, on the Department web site. Please use this list, and try to educate people, particularly those who might also end up dealing with these calls about it.

Submitted by Patricia Denke, Ph.D. — Pest Management Program Manager

SEED POTATO TRADE MISSION FROM TAIWAN—SUMMER 2008

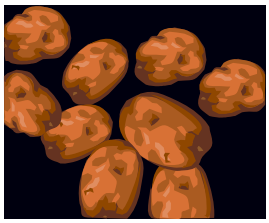
Larry Krum, Michelle Mettler and Gary Adams, USDA State Plant Health Director, participated in a conference call on October 29th to discuss the possibility of Taiwan opening their market for the importation of table stock and seed potatoes from Montana and Colorado. Taiwan is proposing to participate in a trade mission sometime during the potato production year in 2008, preferably late growing season to early harvest.

Taiwan currently imports about $3.5 million of table stock and $1.2 million of seed potatoes from the United States.

The United States and Taiwan will be participating in a bilateral meeting the last week of November 2007 and Taiwan has asked Montana and Colorado to provide some information on the seed production practices of each respective state. This letter will contain the invitation to come to Montana and describe to the trade delegation the pest control and cultural practices in place for the seed production areas of Montana to control Late Blight. Currently Taiwan is the only country still requiring field inspections for Late Blight and this would be their main emphasis during the visit. The invitation/proposal letters will set out a time line for the trade delegation to come to the United States sometime during the last 10 days of July or the first 10 days of August, with emphasis on the last of July. The agenda will be to fly into Denver and tour the seed production area of Colorado and then travel to Bozeman to tour the seed lab and the production area around Manhattan. The tour schedule would propose for the delegation to be in Colorado for a Monday/Tuesday tour, travel on Wednesday and then tour Montana on Thursday/Friday.

Larry Krum
Shipping Point Program

Submitted by Larry Krum — Agricultural Specialist



A SWEET LESSON IN HUMANITY

Years ago, a 10-year-old boy approached the counter of a soda shop and climbed on to a stool.

"What does an ice cream sundae cost?" he asked the waitress.

"Fifty cents," she answered.

The youngster reached deep in his pockets and pulled out an assortment of change, counting it carefully as the waitress grew impatient. She had "bigger" customers to wait on.

"Well, how much would just plain *ice cream be?" the boy asked.*

The waitress responded with noticeable irritation in her voice, "thirty-five cents."

Again the boy slowly counted his money. "May I have some plain ice cream in a dish then, please?" He gave the waitress the correct amount, and she brought him the ice cream.

Later, the waitress returned to clear the boy's dish and when she picked it up, she felt a lump in her throat. There on the counter the boy had left two nickels and five pennies. She realized that he had had enough money for the sundae, but sacrificed it so that he could leave her a tip.

The moral: Before passing judgment, first treat others with courtesy, dignity, and respect.

Have a happy, healthy, and safe holiday season!